



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

195. Proposed by CHRISTIAN HORNING, Heidelberg University, Tiffin, O.

Given a right cone of altitude h and radius r , to locate the plane parallel to its side which bisects the cone.

MECHANICS.

175. Proposed by J. F. LAWRENCE, A. B., Professor of Mathematics. Oklahoma Agricultural College, Stillwater, Oklahoma.

A cylinder descends down a plane, the inclination of which to the horizon is α , unwrapping a fine string fixed at the highest point of the plane. Find the angle through which the plane must be depressed in order that a sphere, descending under like circumstances, may experience the same acceleration.

176. Proposed by A. H. HOLMES, Brunswick, Me.

A solid cube weighs 300 pounds. If a power is applied at an angle of 45° at an upper edge of the cube, how many foot-pounds will be required to overturn the cube?

DIOPHANTINE ANALYSIS.

126. Proposed by R. A. THOMPSON, M. A., C. E., Engineer Railroad Commission of Texas.

Eight persons wish to play a series of games of progressive duplicate whist. In one evening, 12 boards are played, 4 boards (and return) by one couple against each of the other three couples, the same partners being retained throughout one evening. How many evenings will be required to complete the series, and what is the order of play, it being required that each player shall play with every other player as partner, and that each couple shall play once and but once against every other couple.

AVERAGE AND PROBABILITY.

162. Proposed by F. P. MATZ, Ph. D., Sc. D., Reading, Pa.

Two points are taken at random in the surface of a circle and a chord is drawn through them. Find the average area of the segment containing the center of the circle.

GROUP THEORY.

7. Proposed by M. E. GRABER, A. M., Heidelberg University, Tiffin, Ohio.

Which linear substitution will transform $x_1x_2 + x_3x_4 + x_5x_6 = 0$ into $y_1^2 + y_2^2 + y_3^2 - y_4^2 - y_5y_6 = 0$?